

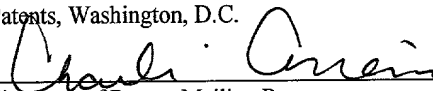
UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S) Joseph Louis Petrucci, Jr. **GROUP ART**
UNIT:Unknown
APPLN. NO.: EXAMINER: Unknown
FILED: Concurrently Herewith
TITLE: METHOD AND SYSTEM FOR DETERMINING A
PERFORMANCE OF PLASMA ETCH EQUIPMENT

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PRELIMINARY AMENDMENT

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

Please enter this Preliminary Amendment in the above-
entitled Application.

IN THE SPECIFICATION:

On page 4, please replace the paragraph beginning on line 30 with the following:

- - After starting the process, in step 501 an etch rate is calculated. The etch rate is calculated, for example, by analyzing an IEP signal which will be described further below with reference to Figure 3. The etch rate can also be calculated on the basis of an OES signal. Such analysis will be described further below with reference to Figure 4.- -

On page 5, please replace the paragraph beginning on line 2 with the following:

- - After calculating the etch rate, in step 502 the non-uniformity of a film to be etched is calculated. The calculation of the non-uniformity is performed on the basis of an OES signal which will be described with reference to Figure 4 further below.- -

On page 5 please replace the paragraph beginning on line 8 with the following:

- - After calculating the non-uniformity, in step 503 the results of etch rate calculation and non-uniformity calculation are compared with historical data and/or statistical process control (SPC) limits.- -

On page 5 please replace the paragraph beginning on line 12 with the following:

- - In step 504 it is decided, whether the calculated etch rate and the calculated non-uniformity are within a specification, on the basis of the step of comparing (503). If the results are within the specification it is decided that the plasma etch tool is up, and normally no measures have to be taken. If both or one of the calculated values is not in the specification, it is decided that the tool is down. In this case, for example, the tool can be removed from the production line.- -

IN THE DRAWINGS:

Please substitute the enclosed corrected sheet 1/2 for the original sheet

1/2.

REMARKS

Applicants respectfully request entry of amendments presented herein.


The amendments to the specification are made so that the specification is consistent with FIG. 1. The amendment to FIG. 2 is made to correct a typographical error in the label of block 14.

Respectfully submitted,

SEND CORRESPONDENCE TO:

Motorola, Inc.
Customer Number: **23125**

By: _____



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Amended specification showing amendments with underlines and [brackets].

IN THE SPECIFICATION:

After starting the process, in step [S01] 501 an etch rate is calculated. The etch rate is calculated, for example, by analyzing an IEP signal which will be described further below with reference to Figure 3. The etch rate can also be calculated on the basis of an OES signal. Such analysis will be described further below with reference to Figure 4.

After calculating the etch rate, in step [S02] 502 the non-uniformity of a film to be etched is calculated. The calculation of the non-uniformity is performed on the basis of an OES signal which will be described with reference to Figure 4 further below.

After calculating the non-uniformity, in step [S03] 503 the results of etch rate calculation and non-uniformity calculation are compared with historical data and/or statistical process control (SPC) limits.

In step [S04] 504 it is decided, whether the calculated etch rate and the calculated non-uniformity are within a specification, on the basis of the step of comparing ([S03] 503). If the results are within the specification it is decided that the plasma etch tool is up, and normally no measures have to be taken. If both or one of the calculated values is not in the specification, it is decided that the tool is down. In this case, for example, the tool can be removed from the production line.

IN THE DRAWINGS:

In FIG. 2 of the drawings, block 14 original read "COMPUTES", but is corrected to read - -COMPUTER- -as noted on the red-lined drawing of sheet 1/2.

1/2

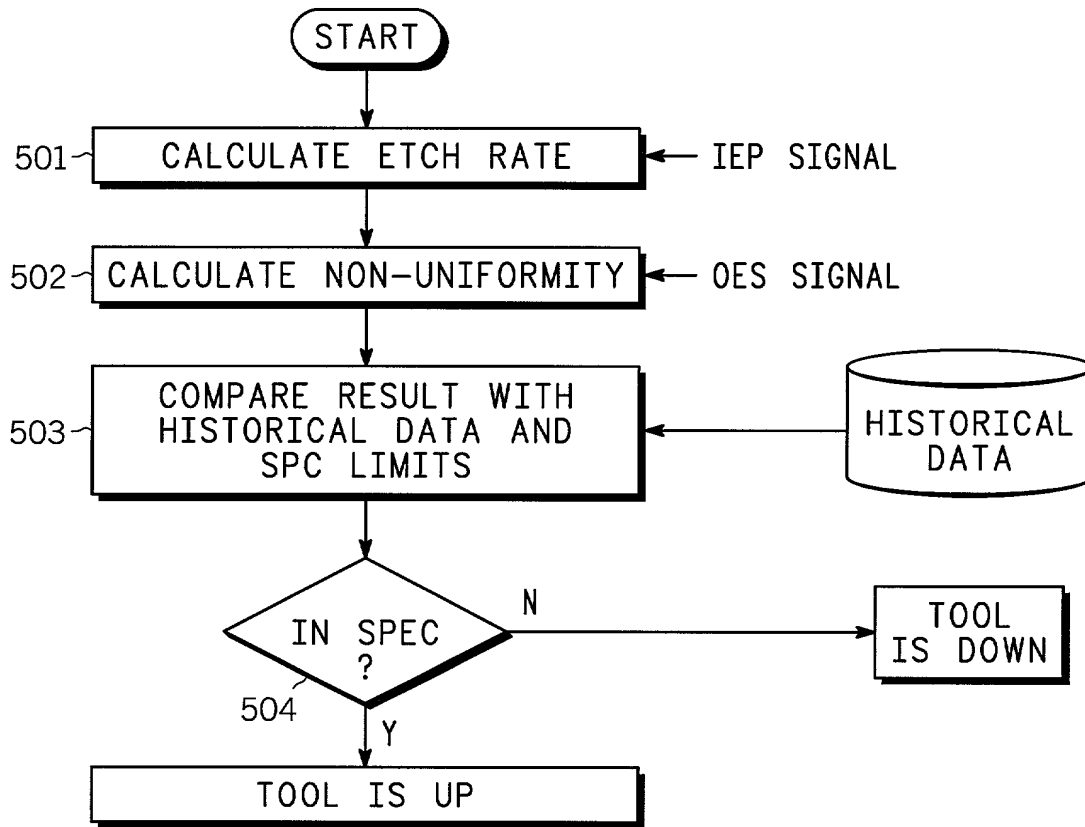


FIG. 1

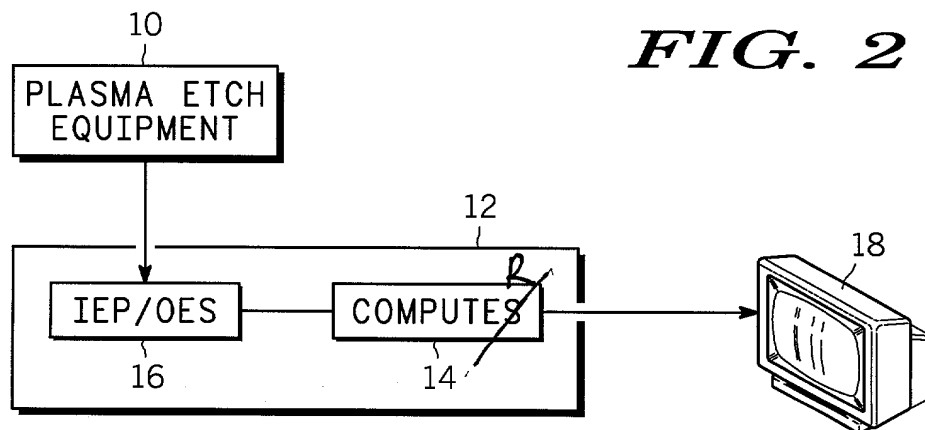


FIG. 2

1/2

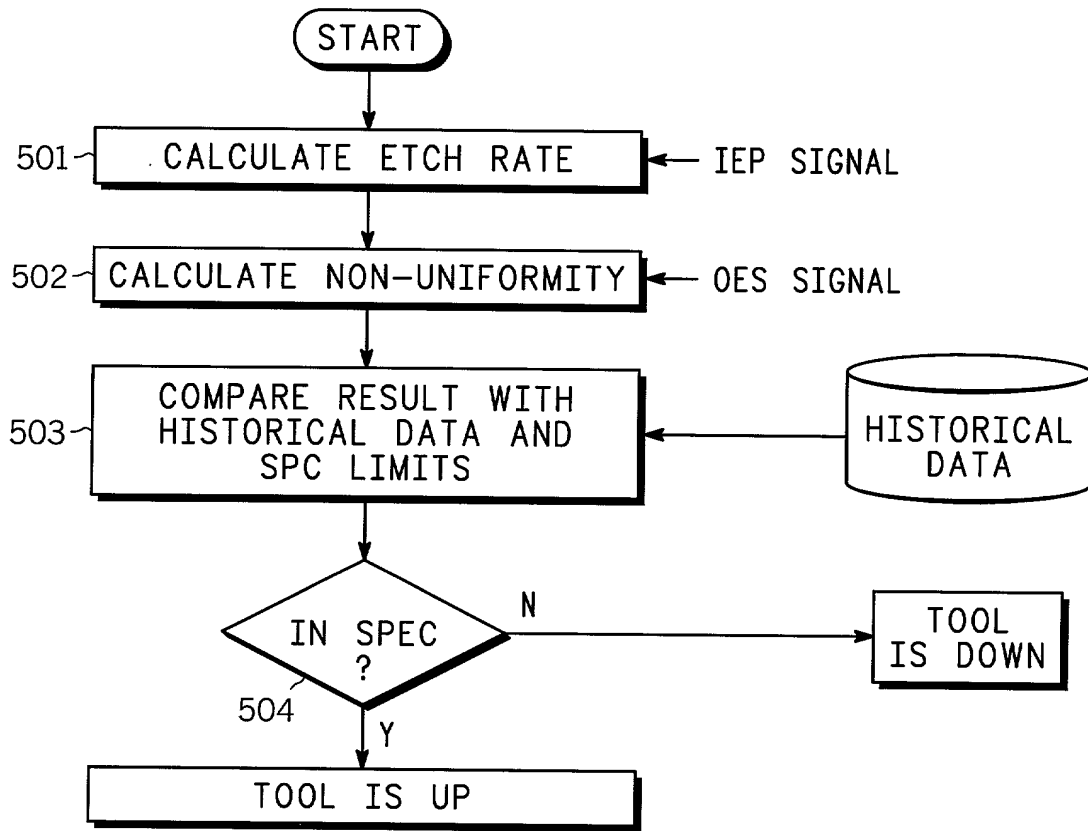


FIG. 1

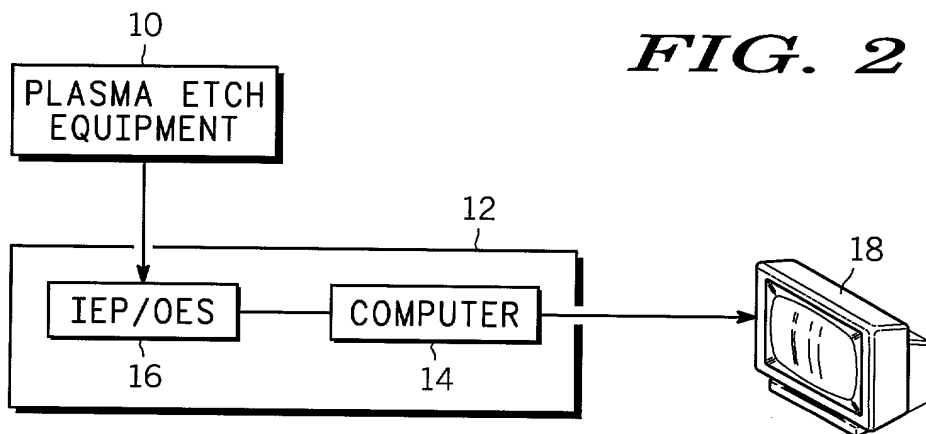


FIG. 2